

COHEN, DIPPELL AND EVERIST, P. C.

CONSULTING ENGINEERS

RADIO-TELEVISION

1300 L STREET, N. W.

SUITE 1100

WASHINGTON, D. C. 20005

(202) 898-0111

DONALD G. EVERIST
SUDHIR K. KHANNA
WARREN M. POWIS
JOHN R. URAM, JR.
ROBERT W. GUILL
WILSON A. LA FOLLETTE

E-MAIL:
CDEPC@WORLDNET.ATT.NET

DOCKET FILE COPY ORIGINAL

JULIUS COHEN

(1922-1993)

RALPH E. DIPPELL, JR.

(1922-1992)

FACSIMILE

(202) 898-0895

RECEIVED

January 24, 1997

JAN 24 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW Room 222
Washington, DC 20554

Re: Reply Comments of Cohen,
Dippell and Everist, P.C.

Dear Mr. Caton:

Enclosed are 11 copies (original and 10) of the response by Cohen, Dippell and Everist, P.C. regarding MM Docket No. 87-268, In the Matter of Advanced Television and Their Impact Upon the Existing Television Broadcast Service.

If there are any questions, please do not hesitate to contact this office.

Sincerely,



Warren M. Powis

WP:cc
Encl.

No. of Copies rec'd
List ABCDE

0+10

COHEN, DIPPELL AND EVERIST, P.
Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL
RECEIVED

JAN 24 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

Advanced Television)
and Their Impact Upon the)
Existing Television Broadcast)
Service)

MM Docket No. 87-268

COHEN, DIPPELL AND EVERIST, P.C.
REPLY COMMENTS ON THE
SIXTH NOTICE OF PROPOSED RULE MAKING

These reply comments on the Commission's Sixth Further Notice of Proposed Rule Making (FCC 96-317, Released August 1996) ("Notice") are hereby submitted by the consulting engineering firm of Cohen, Dippell and Everist, P.C. ("CDE"). CDE and its predecessors have provided consulting engineering services to the broadcast industry since 1937 and is pleased to have the opportunity to submit the following reply comments to the Notice. The Notice addresses the allotment of digital television ("DTV") channels for each NTSC broadcast station's licensees, permittees and applicants for construction permit as file October 24, 1991. The Commission's core spectrum issues which initially removed TV Channels 60-69 and ultimately remove TV channels 2-7 and 52-69 have created a huge volume of comments. CDE reply comments are directed towards the various issues including UHF spectrum (co-channel and adjacent-channel), core spectrum proposals, and international issues.

Issue One
Television Channel 14 to Channel 20 Shared Spectrum

CDE has identified the following existing shared spectrum operations, which demonstrates the complexity of allotting DTV and land mobile in common spectrum.

- Shared channels authorized in Docket 18261.

<u>City/State</u>	<u>Channels</u>
Boston, MA	14, 16
Chicago, IL	14, 15
Cleveland, OH ¹	14, 15

<u>City/State</u>	<u>Channels</u>
Dallas, TX	16
Detroit, MI ¹	15, 16
Houston, TX	17
Los Angeles, CA	14, 20
Miami, FL	14
New York, NY	14, 15
Philadelphia, PA	19, 20
Pittsburgh, PA	14, 18
San Francisco, CA	16, 17
Washington, DC	17, 18

¹ Border agreements with Canada precluded activation of these channels for land-mobile use. In PR Docket 86-163, the Commission authorized land-mobile operation in the 421-430 MHz band in Cleveland, Detroit and Buffalo urban areas.

- Shared channel authorized in GEN Docket 84-902.

<u>City/State</u>	<u>Channel</u>
Los Angeles, CA	16

- Temporary shared channel authorized in FCC Order 95-115.

<u>City/State</u>	<u>Channel</u>
New York, NY ²	16

² Permitted for a period of at least 5 years or until the Commission assigns Channel 16 in New York City for DTV.

- Shared channels assigned in Dockets 20368 and 83-45.

<u>Area</u>	<u>Channels</u>
Gulf of Mexico (Louisiana-Texas Gulf Coast area)	15, 16, 17

- Shared channel defined under FCC Rule 73.603(d).

<u>Area</u>	<u>Channel</u>
Hawaii	17

39 dBu Protected Land-Mobile Contour (Channels 14 to 20)

In Docket 18261, the Commission defined a 39 dBu protected land-mobile contour for operations within the shared television spectrum. CDE, therefore, disagrees with comments by Motorola which requested protection to the 0.5 microvolt receiver sensitivity level, which corresponds to a significantly lower signal level of approximately 16 dBu based upon a 0 dB receive antenna gain and 0 dB of line loss. CDE urges the Commission to maintain 39 dBu as the protected contour level for land-mobile operations from co-channel and \pm first-adjacent channel TV operations.

CDE is aware of numerous licensed land mobile base stations which have been identified beyond 50 miles from the city reference coordinates. Protection of non-compliant base stations will only frustrate the Commission's efforts to foster a meaningful DTV allotment table.

The NTSC/DTV transition period will result in obvious compromises between NTSC and DTV service objectives. For new DTV operations located within the shared spectrum, CDE recommends that the Commission establish a standard which reflects protection to the predicted 39 dBu contours of all authorized land-mobile base stations which are located within the 50 mile radius of the land-mobile center-city reference coordinates. Protection beyond 39 dBu contours was not envisioned in Docket 18261.

Issue Two

Adjacent-Spectrum Issues (TV Channels 14 and 69)

Adjacent-spectrum interference resolution problems have significantly impacted high power NTSC television broadcasters adjacent to land-mobile stations located below 470 MHz

and above 806 MHz. CDE anticipates similar problems from the draft DTV channel 14 and channel 69 allotments. Since the spectrum below 470 MHz and above 806 MHz is permitted nationwide, CDE recommends that the Commission apply a high "penalty function"¹ to the final DTV channeling plan. It is anticipated that adjacent land-mobile problems will be exacerbated in large metropolitan areas due to significant land-mobile usage.

CDE, therefore, concurs with comments by various low power television/TV translator interests which seek to resolve adjacent spectrum problems.

Issue Three
Core Spectrum Issues (VHF-TV)

CDE agrees with commenters Sunbelt Communications, Sarkes-Tarzian, and WCYB that it is virtually impossible to replicate NTSC VHF-TV coverage on UHF-TV frequency, particularly in and around mountain areas.

CDE agrees with Scripps, Pulitzer, and Broadcasters to retain the entire Channel 2 through 13 VHF spectrum for television broadcast use to minimize the disruption to existing NTSC service and ensure that white or grey areas that do not now exist will be created. We note that the ACATS tests in Charlotte, NC on television Channel 6 demonstrated that DTV coverage was possible at a relatively modest transmitter power output.

After the transition, CDE notes that the DTV reduced co-channel spacing may enable some Channel 6 NTSC licensees to relocate to an alternate VHF DTV channel. This would improve allocation freedom for existing and new non-commercial educational FM stations in various markets. CDE further urges the Commission to consider DTV field experience at the end of the transition period to determine if groups of DTV stations on first-adjacent channels can be collocated, in a similar manner to MMDS/ITFS operations.

Issue Four
Spectrum Issues (VHF/Land-Mobile)

Several land-mobile interests and one equipment manufacturer (Ericsson) expressed a desire to take VHF Channel 7 and 8 for land mobile use in addition to TV Channels 2 through 6. However, the California Department of General Services points out that Motorola and Ericsson no longer support low-VHF equipment which operate between 30 and 50 MHz. CDE questions the warehousing of valuable VHF land-mobile spectrum when communications equipment manufacturers are not supporting existing equipment, while at the same time

¹Penalty function as used by the Commission's DTV computer allotment program.

petitioning for valuable Channel 7 and 8 television spectrum. CDE, therefore, urges the Commission to repack the 30 to 50 MHz spectrum and we question the propriety of manufacturers who no longer support two-way radio equipment which operates within that spectrum.

Issue Five
Core Spectrum Issues (UHF)

If any further television spectrum is utilized for land-mobile operations, CDE urges the Commission to restrict the use of those channels to the major markets considered in Docket No. 18261. When television channels 70 through 83 were removed from television broadcast spectrum, television translators were permitted to continue operation on a non-interfering basis. The Channel 70 through 83 translators were afforded the opportunity to relocate to lower channels; a desirable action since newer television receivers were no longer required to tune above channel 69.

A number of channel 70 through 83 television translators still operate today on a non-interfering basis which suggests very light use of the 806-890 MHz land mobile spectrum outside the major markets.

Accordingly, outside of the major markets, television stations and low power TV/TV translator stations should have full use of channel 2 through 69 which will foster the use of low power TV and TV translators within smaller communities and rural areas across the United States of America. CDE agrees with Broadcasters that the full Channel 2-69 spectrum should be reserved for the NTSC/DTV transition period. CDE suggests that the Commission consider other frequency bands such as 421-430 MHz for nationwide land-mobile use.

Issue Six
Unused NTSC Allotments

CDE concurs with KM Communications, Red River, and other commenters that the FCC should also assign DTV channels to applications filed after October 24, 1991. Most of the pending applications filed after October 24, 1991, are located at distances that exceed the co-channel spacing from the 30-market freeze area. In addition, other unused NSTC allotments should be either retained or changed in channel where possible since most of these allotments are located in underserved areas.

Issue Seven
International Issues

CDE notes that the draft DTV table includes Channel 5 at Charlotte Amalie, VI which is co-channel to the Channel 5 British Virgin Islands operation. CDE also notes the use of Channel 13 in the Bahamas and recommends appropriate coordination with adjacent country administrations.

CDE strongly recommends that the FCC itself undertake the final DTV allotment plan. CDE believes that only the FCC can determine and negotiate appropriate international concerns with adjacent countries such as Canada, Mexico, British Virgin Islands, Bahamas, and Dominican Republic. Furthermore, only the Commission can balance the appropriate protection requirements between DTV and shared-spectrum and adjacent-channel spectrum land-mobile operations, taking into account requisite protection of the protected radio astronomy frequencies at each monitoring site.

Respectfully Submitted,

A handwritten signature in black ink, reading "Warren M. Powis". The signature is fluid and cursive, with the first name "Warren" and last name "Powis" clearly legible. It is positioned above a horizontal line.

Warren M. Powis

DATE: January 24, 1997